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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/602,497

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EXAMINER

MORRISON, JAY A

ART UNIT

PAPER NUMBER

2168

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/602,497	Applicant(s) GALINDO-LEGARIA ET AL.	
	Examiner Jay A. Morrison	Art Unit 2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/24/2003</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-20 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: notifying a client of a change to data stored at database does not occur in the case that the third subset of data is empty.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 8-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Liu et al. ("Continual Queries for Internet Scale Event-Driven Information Delivery").

With respect to claim 1, Liu teaches a method for notifying a client of a change to data stored at a database, the method comprising:

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“receiving a subscription from the client, the subscription selecting a first subset of data from within a set of data” (page 613, first column, seventh paragraph [second example], whereas Liu's notification request is equivalent to the claimed subscription from client);

“generating a subscription plan for filtering the first subset from within the set of data” (page 612, second column, third paragraph, whereas Liu's query Q is equivalent to the claimed subscription plan for filtering);

“receiving a query to be executed at the database, the query changing a second subset of data within the set of data” (page 612, second column, fifth paragraph, whereas Liu's database operations are equivalent to the claimed query received which changes the second subset of data);

“generating a query plan for executing the query, the query plan for filtering the second subset from within the set of data” (page 612, second column, third paragraph, whereas Liu's new update is equivalent to the claimed received query plan for filtering);

“matching the subscription to the query based on the set of data” (page 612, second column, second and third paragraphs, whereas Liu's subsequent executions of Q being performed when a new update occurs and trigger becomes true is equivalent to the claimed matching subscription to the query);

“supplementing the query plan with the subscription plan” (page 615, second column, third paragraph, whereas Liu's omitting the FROM clause when the condition is defined over the same objects as the query component is equivalent to the claimed supplementing of the query plan with subscription plan);

“executing the supplemented query plan whereby the query changes the second subset of data and the subscription filters the first subset of data from within the second subset of data to form a third subset of data” (page 612, second column, third paragraph, whereas Liu’s run of Q over present data is equivalent to the claimed first subset of data and Liu’s subsequent execution of Q performed when a new update occurs are equivalent to the claimed second subset of data);

“determining whether the third subset of data is non-empty; and if the third subset of data is non-empty, then generating a notification of the change to the third subset of data” (page 612, second column, third paragraph, whereas Liu’s only new query matches since the previous execution being returned to the user is equivalent to the claimed determination of whether the third subset is non-empty and returning that non-empty subset to the user).

With respect to claim 2,

Liu teaches “terminating the subscription” (page 611, second column, second paragraph, whereas Liu’s destruction of observation objects is equivalent to the claimed termination of the subscription).

With respect to claim 3,

Liu discloses “persisting the subscription” (page 611, first column, first paragraph, whereas Liu’s query system which includes future data is equivalent to the claimed persisting subscription).

With respect to claim 4,

Liu discloses “storing the subscription plan at a notification manager” (page 611, second column, third and fourth paragraphs, whereas Liu’s query specification language in the notification model is equivalent to the claimed storage of subscription plan at notification manager).

With respect to claim 5,

Liu discloses “changing the second subset of data at the database” (page 612, second column, fifth paragraph, whereas Liu’s update database operation is equivalent to the claimed changing of the second subset of data).

With respect to claim 6,

Liu discloses “submitting the notification to the client” (page 611, second column, third paragraph, whereas Liu’s users or applications receiving notifications is equivalent to the claimed submitting of notification to client).

With respect to claims 8-13,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 1-6 and are similarly rejected.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. ("Continual Queries for Internet Scale Event-Driven Information Delivery") in view of Zollinger et al., US Patent 6,321,236.

With respect to claim 7,

Liu does not explicitly indicate "changing the third subset of data at the client."

However, Zollinger teaches "changing the third subset of data at the client" (column 9, lines 3-20, whereas Zollinger's applying updates to the client copy of the database table is equivalent to the claimed changing of the subset of data at the client).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Liu and Zollinger because using the steps "changing the third subset of data at the client" would have given those skilled in the art the tools to improve the invention by allowing the client to update his local data with only the changes which have occurred at the server. This gives the user the advantage of being able to have the ability to stay current with data changes have been made at the server.

With respect to claim 14,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 7 and is similarly rejected.

With respect to claim 15, Liu teaches

"the database for storing the data, the database comprising: a database front end for: receiving a subscription from the client, the subscription selecting a first subset of data from within a set of data" (page 613, first column, seventh paragraph [second example], whereas Liu's notification request is equivalent to the claimed subscription from client);

"generating a subscription plan for filtering the first subset from within the set of data" (page 612, second column, third paragraph, whereas Liu's query Q is equivalent to the claimed subscription plan for filtering);

"receiving a query to be executed at the database, the query changing a second subset of data within the set of data" (page 612, second column, fifth paragraph, whereas Liu's database operations are equivalent to the claimed query received which changes the second subset of data);

"and generating a query plan for executing the query, the query plan for filtering the second subset from within the set of data" (page 612, second column, third paragraph, whereas Liu's new update is equivalent to the claimed received query plan for filtering);

“and a notification manager for: matching the subscription to the query based on the set of data” (page 612, second column, second and third paragraphs, whereas Liu’s subsequent executions of Q being performed when a new update occurs and trigger becomes true is equivalent to the claimed matching subscription to the query);

“supplementing the query plan with the subscription plan” (page 615, second column, third paragraph, whereas Liu’s omitting the FROM clause when the condition is defined over the same objects as the query component is equivalent to the claimed supplementing of the query plan with subscription plan);

“executing the supplemented query plan whereby the query changes the second subset of data and the subscription filters the first subset of data from within the second subset of data to form a third subset of data” (page 612, second column, third paragraph, whereas Liu’s run of Q over present data is equivalent to the claimed first subset of data and Liu’s subsequent execution of Q performed when a new update occurs are equivalent to the claimed second subset of data);

“determining whether the third subset of data is non-empty; and if the third subset of data is non-empty, then generating a notification of the change to the third subset of data” (page 612, second column, third paragraph, whereas Liu’s only new query matches since the previous execution being returned to the user is equivalent to the claimed determination of whether the third subset is non-empty and returning that non-empty subset to the user).

Liu does not explicitly indicate “the client comprising a cached version of data stored at the database.”

However, Zollinger teaches “the client comprising a cached version of data stored at the database” (column 7, lines 14-21, whereas Zollinger’s initial database copy sent to client is equivalent to the claimed client comprising a cached version of data which is stored at the database).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Liu and Zollinger because using the steps “the client comprising a cached version of data stored at the database” would have given those skilled in the art the tools to improve the invention by allowing the client to have a subset of data the data which mirrors the server data. This gives the user the advantage of being able to quickly change the viewable format of the locally cached data without having to query the server each time.

With respect to claim 16,

Liu discloses “the subscription is terminated after the notification is generated” (page 612, second column, third and fourth paragraphs, whereas Liu’s stop condition is equivalent to the claimed subscription being terminated after notification generated).

With respect to claim 17,

Liu discloses “the subscription is persisted after the notification is generated” (page 611, first column, first paragraph, whereas Liu’s query system which includes future data is equivalent to the claimed persisting subscription).

With respect to claim 18,

Liu discloses “the notification manager is further for storing the subscription plan” (page 611, second column, third and fourth paragraphs, whereas Liu’s query specification language in the notification model is equivalent to the claimed storage of subscription plan at notification manager).

With respect to claim 19, Liu discloses

“the database further comprises: an optimizer for generating an execution plan for the query based on the query plan” (page 611, second column, third paragraph, whereas Liu’s query specification language to express event monitoring requests is equivalent to the claimed optimizer for generating the execution plan for query based on query plan);

“an execution engine executing the query” (page 612, second column, third and fourth paragraphs, whereas Liu’s query Q running on the database is equivalent to the claimed query being executed by the execution engine);

“and a storage processor for maintaining data in a storage medium” (page 612, second column, fourth paragraph, where Liu’s database is equivalent to the claimed storage processor which maintains data in a storage medium).

With respect to claim 20,

Liu discloses “the notification manager is further for submitting the notification to the client” (page 611, second column, third paragraph, whereas Liu’s user receiving

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notifications in the notification model is equivalent to the claimed notification manager for submitting notification to the client).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on Monday to Thursday from 7:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached at (571) 272-4146 or TC 2100 customer service can be contacted at (703) 306-5631. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

Jay Morrison

Dec. 20, 2005



Debra Le
Primary Examiner.